CENTERS FOR DISEASE CONTROL

November 7, 1986 / Vol. 35 / No. 44

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Epidemiologic Notes and Reports

Update: Influenza Activity — Micronesia, United States

During the summer months, outbreaks of influenza types A(H1N1) and B were reported from south pacific islands. Several sporadic cases of influenza A(H1N1) also were reported from Hawaii during that time period. In October, the first sporadic cases of influenza A(H1N1) were reported from the contiguous United States.

Micronesia. Widespread outbreak activity was reported from Micronesia for the period May through August. In the Republic of Palau, outbreaks were associated with circulation of influenza types A(H1N1) and B. Rises in titer of hemagglutination-inhibition antibody in sera collected from 101 persons in 1985 and 1986 were measured to determine the incidence of influenza virus infection. Thirty-six (51%) of 70 persons <35 years of age had influenza A(H1N1) infections compared with 4 (13%) of 31 persons ≥ 35. The three type A(H1N1) viruses that were isolated were all similar to A/Taiwan/86. For influenza B virus, the serologically diagnosed infection rates were 36 (51%) and 10 (32%) in the same age groups. Thirty-four (34%) had no titer rise to either type of influenza. The incidence and characteristics of clinical illness associated with serologic evidence of infection could not be determined. Type A(H1N1) influenza was also isolated in the Republic of the Marshall Islands.

Hawaii. Two type A(H1N1) influenza virus isolates, both similar to A/Taiwan/86, have been reported from Hawaii. Serologic evidence of type A(H1N1) virus infection was detected for a third person. The patients were 20, 23, and 43 years of age, and onset of illnesses occurred in June and August.

New York. In Syracuse, influenza virus type A(H1N1), similar to A/Taiwan/86 on preliminary testing, was isolated from a 17-year-old student who was ill during mid-September.

Texas. In early to mid-October, three influenza A(H1N1) viruses were isolated in association with sporadic influenza cases in Houston. All three isolates were from children <12 years of age.

Reported by M Kumangai, MO, Bureau of Health Svcs, Republic of Palau; MJ O'Leary, MD, MPH, Federated States of Micronesia; G Kobayashi, G Kunimoto, C Nevin-Woods, DO, A Tanaguchi, MD, SMD Terrell-Perica, MA, MPH, AP Liang, MD, MPH, State Epidemiologist, Hawaii Dept of Health; BE Forbes, MD, Upstate Medical Center, Syracuse, J Miller, MD, Onondaga County Health Dept, R Deibel, PhD, D Carpenter, MD, DL Morse, MD, State Epidemiologist, New York State Dept of Health; Influenza Research Center, Baylor College of Medicine, Houston, CE Alexander, MD, State Epidemiologist, Texas Dept of Health; International Health Program Office, Div of Immunization, Center for Prevention Svcs, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Influenza Activity – Continued

Editorial Note: These are the first reports of influenza virus isolates in Micronesia and the United States this season. The influenza A(H1N1) isolates obtained from both Hawaii and New York resemble A/Taiwan/86(H1N1), a new variant strain of influenza A(H1N1) (*1*). No influenza outbreaks have been reported in the United States. Although the initial isolates reported have all been type A(H1N1), neither the extent of influenza activity, if any, nor which influenza virus strains may circulate in the United States this season can be predicted. While it may not be appropriate to extrapolate the findings from Palau to the United States, the results of the Palau serologic survey are consistent with previous reports from Asia (*1,2*) indicating that contemporary strains of influenza A(H1N1) are affecting children and young adults primarily.

In addition to a trivalent inactivated influenza vaccine recommended for all high-risk persons, a supplemental vaccine containing the A/Taiwan/86 strain will be available this year in the United States. Recommendations for usage of both vaccines have been published (*3,4*). Production of a supplemental vaccine was possible because of early detection of the A/Taiwan/86 variant and is intended to optimize protection, particularly for high-risk persons <35 years of age. At present, the trivalent vaccine is widely available. This vaccine contains updated A(H3N2) and B strains and also an A(H1N1) component that may provide partial protection against the new A(H1N1) variants. The Food and Drug Administration released the first lots of monovalent vaccine in late October, and it should be available shortly through normal distribution channels*.

Key points to bear in mind regarding recommendations for influenza vaccine administration and treatment of influenza include:

1) High-risk persons of all ages should receive the standard trivalent vaccine according to previously published Immunization Practices Advisory Committee recommendations.
2) The Public Health Service (PHS) urges health care personnel who treat high-risk children or high-risk adults <35 years of age to provide both trivalent and supplemental A(H1N1) influenza vaccines to their patients.
3) Vaccination with the trivalent vaccine should not be delayed if the supplemental vaccine is not available at the time the trivalent vaccine would normally be given.
4) Supplemental vaccination is of potential benefit to many other groups of young persons to reduce morbidity if A(H1N1) outbreaks occur. The potential for introducing influenza to high-risk patients could be reduced by vaccinating young adult parents and siblings of high-risk children; young health care personnel who provide care for young, high-risk patients; and young employees who perform essential services in the public or private sector.
5) There is no special emphasis by the PHS to provide the supplemental vaccine to adults ≥ 35 years of age. However, it may be used in this group either as an added precaution, if the physician and patient so desire, or on the basis of institutional or other local policy decisions.
6) Aspirin use during influenza, influenza-like illnesses, and chickenpox has been associated with Reye syndrome (*5*), a rare but serious disease. Therefore, the PHS warns that children and teenagers ≤ 18 years of age should not use aspirin for the treatment of these illnesses (*6*).

References

1. CDC. Antigenic variation of recent influenza A(H1N1) viruses. MMWR 1986;35:510-2.
2. CDC. Update: influenza activity—worldwide. MMWR 1986;35:433-4.

*Product information about influenza vaccines can be obtained from the following manufacturers: Connaught: (800) 538-7678 (distribution to pediatricians only); Squibb: (609) 921-4071 (Squibb handles distribution of Connaught vaccine to all others); Parke-Davis: (800) 223-0432; Wyeth: (800) 321-2304.

Influenza Activity — Continued

3. ACIP. Prevention and control of influenza. MMWR 1986;35:317-26, 331.
4. ACIP. Monovalent influenza A(H1N1) vaccine, 1986-1987. MMWR 1986;35:517-21.
5. Hurwitz ES, Barrett MJ, Bregman D, et al. Public Health Service study on Reye's syndrome and medications. Report of the pilot phase. N Engl J Med 1985;313:849-57.
6. CDC. Reye syndrome—United States, 1985. MMWR 1986;35:66-8, 73-4.

Cholera in Louisiana — Update

Since mid-August 1986, 12 cases of cholera have been identified among residents of Louisiana. The cases occurred in nine families living in New Orleans and in other towns in six parishes (Jefferson, LaFourche, Assumption, St. Mary, Iberia, and Jefferson Davis) within a 200-mile radius to the south and west of New Orleans. None of the patients had traveled abroad within the past year.

Onset of symptoms occurred between August 8 and October 1. Ten of the patients had severe diarrhea, seven required hospitalization, and four required treatment in an intensive care unit for hypotension. All patients recovered following intravenous fluid therapy. Seven patients had stool cultures yielding toxigenic *Vibrio cholerae* O1, biotype El Tor, serotype Inaba. The remaining five patients did not have stool cultures performed but had vibriocidal antibody titers greater than or equal to 1280, suggesting recent infection with *V. cholerae* O1.

Sewer system surveillance using Moore swabs has detected toxigenic *V. cholerae* O1 in sewage in eight separate sites in southern Louisiana (three in Jefferson Parish, one in Orleans Parish, one in St. Tammany Parish, one in Iberia Parish, and two in Jefferson Davis Parish). Five of these sites are in towns without a clinically identified case of cholera.

Although no common source has been identified, eleven of the patients reported eating crabs or shrimp within 5 days before the onset of symptoms. The seafoods were harvested from multiple sites in a wide area along the Louisiana coast of the Gulf of Mexico. Surveillance is continuing, and further epidemiologic studies are underway.

Reported by L McFarland, DrPH, HB Bradford, PhD, J Mathison, MD, State Epidemiologist, Louisiana Dept of Health and Human Resources; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, Div of Field Svcs, Epidemiology Program Office, CDC.

Editorial Note: Thirteen cases of domestically acquired cholera (one involving a Florida patient [*1*]) have been detected near the U.S. Gulf coast so far during 1986. Past studies of El Tor *V. cholerae* infections in both endemic and non-endemic countries indicate that many mild or clinically inapparent infections occur for every hospitalized patient (*2*). The detection of toxigenic *V. cholerae* O1 in the sewer systems of several towns with no identified cases suggests that undetected cases have occurred in Louisiana.

The source of infection, as in 1978 in Louisiana (*3*), appears to be crustacea. Because seafood from the Gulf Coast is shipped to many states, even physicians located far from the Gulf should consider the possibility of cholera when a patient has severe, watery diarrhea. Diagnosis is confirmed by the isolation of *V. cholerae* O1 from stool culture, preferably on thiosulfate-citrate-bile salts-sucrose (TCBS) agar. Isolates of *V. cholerae* should be serotyped and tested for toxin production through state public health laboratories, and all cases should be reported immediately to the state epidemiologist.

In this outbreak, inadequate cooking or improper handling of crustacea appeared to play a significant role in the development of *V. cholerae* O1 infection. Thoroughly cooking potentially contaminated food and then carefully handling and storing cooked food will prevent foodborne cholera. (*V. cholerae* O1 has been shown to survive in crabs boiled for 8 minutes, but not in crabs boiled for 10 minutes [*3*]).

Cholera — Continued

Vigorous rehydration (preferably with Ringer's lactate) and careful correction of electrolyte and acid-base disturbances are the mainstays of therapy and result in very low mortality rates among hospitalized patients. Tetracycline shortens the duration of symptoms and the period of fecal shedding of the organism (*4*).

References

1. CDC. Toxigenic *Vibrio cholerae O1* infections—Louisiana and Florida. MMWR 1986;35:606-7.
2. Harris JR, Holmberg SD, Parker RDR, et al. Impact of epidemic cholera in a previously uninfected island population: evaluation of a new seroepidemiologic method. Am J Epidemiol 1986;123:424-30.
3. Blake PA, Allegra DT, Snyder JD, et al. Cholera—a possible endemic focus in the United States. N Engl J Med 1980;302:305-9.
4. Greenbough WB. In: Mandell GL, Douglas RG Jr, Bennett JE, eds. Principles and practice of infectious diseases. 2nd ed. New York: John Wiley and Sons, 1985:1208-18.

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	44th Week Ending			Cumulative, 44th Week Ending		
	Nov. 1, 1986	Nov. 2, 1985	Median 1981-1985	Nov. 1, 1986	Nov. 2, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	376	124	N	11,152	6,661	N
Aseptic meningitis	272	308	268	8,710	8,768	8,259
Encephalitis: Primary (arthropod-borne & unspec.)	28	37	37	1,028	1,118	1,305
Post-infectious	-	2	2	85	110	80
Gonorrhea: Civilian	16,211	17,561	18,182	749,432	753,158	764,479
Military	314	261	329	14,210	17,867	20,592
Hepatitis: Type A	467	580	455	18,943	19,222	19,222
Type B	432	553	553	21,598	21,999	20,221
Non A, Non B	72	94	N	2,963	3,506	N
Unspecified	60	133	133	3,757	4,882	6,196
Legionellosis	30	24	N	642	643	N
Leprosy	9	17	3	212	312	205
Malaria	6	19	19	957	885	885
Measles: Total*	68	23	14	5,752	2,606	2,434
Indigenous	63	23	N	5,455	2,178	N
Imported	5	-	N	297	428	N
Meningococcal infections: Total	51	49	49	2,075	2,022	2,322
Civilian	51	48	48	2,073	2,015	2,307
Military	-	1	-	2	7	11
Mumps	92	55	66	4,324	2,530	2,809
Pertussis	285	77	31	3,755	2,972	2,034
Rubella (German measles)	6	5	8	450	583	863
Syphilis (Primary & Secondary): Civilian	739	502	679	22,728	22,791	26,181
Military	1	1	6	139	143	329
Toxic Shock syndrome	9	7	N	293	321	N
Tuberculosis	354	488	488	18,442	18,024	19,777
Tularemia	5	1	5	131	159	236
Typhoid fever	8	5	6	264	322	337
Typhus fever, tick-borne (RMSF)	15	10	10	722	653	933
Rabies, animal	92	107	107	4,652	4,617	5,299

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1986		Cum. 1986
Anthrax	-	Leptospirosis (Tex. 1)	28
Botulism: Foodborne (Utah 1)	13	Plague	7
Infant (Del. 1, Tex. 2)	43	Poliomyelitis, Paralytic	1
Other	1	Psittacosis (Del. 1, Calif. 2)	84
Brucellosis (Md. 1, Fla. 1, Tex. 1)	75	Rabies, human	-
Cholera	3	Tetanus	57
Congenital rubella syndrome	10	Trichinosis	31
Congenital syphilis, ages < 1 year	107	Typhus fever, flea-borne (endemic, murine)	44
Diphtheria	-		

*Two of the 68 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending November 1, 1986, and November 2, 1985 (44th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	11,152	272	1,028	85	749,432	753,158	467	432	72	60	30	212
NEW ENGLAND	432	4	24	3	19,843	19,216	16	29	3	5	11	7
Maine	18	-	-	-	750	979	2	4	-	-	1	-
N H	10	-	2	-	515	486	-	-	-	-	-	-
Vt	4	1	4	2	233	282	-	1	-	-	-	-
Mass	237	-	5	-	7,401	7,898	2	9	-	5	2	7
R I	28	1	-	-	1,539	1,517	2	5	2	-	8	-
Conn	135	2	13	1	9,405	8,054	10	10	1	-	-	-
MID ATLANTIC	4,042	29	94	7	126,697	109,349	26	30	2	1	-	14
Upstate N Y	428	9	33	4	15,553	15,313	4	8	1	-	-	1
N Y City	2,732	U	18	-	72,315	53,766	U	U	U	U	U	12
N J	615	3	10	-	16,498	16,312	11	13	1	1	-	-
Pa	267	17	33	3	22,331	23,958	11	9	-	-	-	1
E N CENTRAL	667	65	315	11	98,177	99,508	23	53	7	1	8	5
Ohio	154	39	125	3	24,999	26,614	3	14	1	1	7	-
Ind	59	8	75	3	10,617	11,061	1	10	1	-	-	-
Ill	302	3	44	4	24,079	23,832	12	12	5	-	-	4
Mich	116	15	49	1	31,476	28,398	7	17	-	-	1	1
Wis	36	-	22	-	7,006	9,603	-	-	-	-	-	-
W N CENTRAL	206	10	70	9	32,526	35,185	4	10	6	-	1	4
Minn	72	4	31	-	4,603	5,246	1	-	4	-	1	2
Iowa	18	1	21	-	3,337	3,715	2	2	2	-	-	-
Mo	71	5	1	-	16,131	16,939	-	6	-	-	-	-
N Dak	2	-	4	-	277	240	-	-	-	-	-	-
S Dak	2	-	11	-	682	676	-	1	-	-	-	-
Nebr	11	-	-	1	2,477	3,030	-	-	-	-	-	-
Kans	30	-	2	8	5,019	5,339	1	1	-	-	-	2
S ATLANTIC	1,573	58	135	32	194,810	196,757	42	107	16	5	3	2
Del	20	2	6	-	3,283	3,777	1	4	1	-	-	-
Md	159	10	29	1	22,747	24,889	1	11	-	-	2	-
D C	195	-	-	1	14,331	13,273	-	-	-	-	-	-
Va	129	19	38	1	16,041	16,512	4	15	3	3	-	1
W Va	7	2	45	-	1,888	2,231	1	2	-	-	-	-
N C	65	3	17	2	30,131	31,209	4	15	2	1	-	-
S C	39	-	-	-	16,778	18,747	-	6	1	-	-	-
Ga	235	5	-	1	32,252	38,491	-	5	1	-	-	-
Fla	724	17	2	26	57,379	47,628	31	49	8	1	1	1
E S CENTRAL	134	31	60	4	60,554	65,033	8	35	4	1	-	1
Ky	25	7	30	1	6,681	7,443	2	11	3	1	-	-
Tenn	66	5	7	1	23,032	24,851	2	14	-	-	-	-
Ala	25	4	22	2	17,694	19,452	-	6	-	-	-	1
Miss	18	15	1	-	13,147	13,287	4	4	1	-	-	-
W S CENTRAL	1,052	32	157	6	88,512	95,011	78	32	10	13	1	19
Ark	27	-	-	2	8,525	9,109	-	-	-	-	-	1
La	135	-	9	-	15,633	18,122	-	2	-	-	-	1
Okla	39	3	20	-	10,088	10,601	12	3	1	-	-	-
Tex	851	29	128	4	54,266	57,179	66	27	9	13	1	17
MOUNTAIN	281	11	35	1	22,261	23,700	59	35	5	5	2	13
Mont	4	1	1	1	586	678	-	1	-	1	-	-
Idaho	3	-	-	-	766	824	3	1	-	-	-	-
Wyo	4	-	2	-	467	542	1	1	-	-	-	-
Colo	132	2	4	-	5,713	6,891	7	3	-	1	-	3
N Mex	21	-	3	-	2,326	2,688	12	3	-	-	-	-
Ariz	71	6	17	-	7,197	7,032	34	18	3	1	2	7
Utah	17	2	6	-	942	1,146	1	1	-	2	-	1
Nev	29	-	2	-	4,264	3,899	1	7	2	-	-	2
PACIFIC	2,765	32	138	12	106,052	109,399	211	101	19	29	4	147
Wash	148	2	11	-	7,813	8,581	14	9	3	1	-	17
Oreg	52	-	-	-	4,507	5,526	38	15	3	-	-	-
Calif	2,510	28	120	12	90,334	91,181	157	74	12	24	4	101
Alaska	12	-	6	-	2,316	2,632	2	1	1	4	-	-
Hawaii	43	2	1	-	1,082	1,479	-	2	-	-	-	29
Guam	-	U	-	-	172	169	U	U	U	U	U	1
P R	77	-	5	1	2,074	2,680	1	1	-	1	-	7
V I	3	-	-	-	238	356	-	-	-	-	-	-
Pac. Trust Terr	-	-	-	-	413	766	1	-	-	-	-	43
Amer Samoa	-	-	-	-	46	-	-	-	-	-	-	2

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending November 1, 1986, and November 2, 1985 (44th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1986	1986	Cum. 1986	1986	Cum. 1986	Cum. 1985	Cum. 1986	1986	Cum. 1986	1986	Cum. 1986	Cum. 1985	1986	Cum. 1986	Cum. 1985
UNITED STATES	957	63	5,455	5	297	2,606	2,075	92	4,324	285	3,755	2,972	6	450	583
NEW ENGLAND	60	-	82	-	21	126	143	-	60	-	144	190	-	9	12
Maine	2	-	12	-	1	1	25	-	-	-	2	9	-	-	-
N.H.	3	-	43	-	-	-	6	-	14	-	75	106	-	1	2
Vt.	2	-	-	-	-	-	17	-	4	-	3	3	-	1	-
Mass.	32	-	24	-	13	118	36	-	10	-	34	46	-	4	6
R.I.	7	-	2	-	-	-	19	-	10	-	6	19	-	2	-
Conn.	14	-	1	-	7	7	40	-	22	-	24	8	-	1	4
MID. ATLANTIC	133	-	1,686	1	34	224	333	1	182	4	184	197	1	36	221
Upstate N.Y.	45	-	77	1†	24	85	113	-	60	2	118	101	-	27	17
N.Y. City	29	U	682	U	4	71	68	U	29	U	10	25	U	5	179
N.J.	34	-	905	-	4	28	30	-	46	-	17	11	1	4	11
Pa.	25	-	22	-	2	40	122	1	47	2	39	60	-	-	14
E.N. CENTRAL	58	-	1,053	-	28	535	290	65	2,936	16	356	714	-	45	37
Ohio	18	-	-	-	10	60	119	6	122	13	159	96	-	1	-
Ind.	2	-	27	-	11	57	31	1	37	3	29	188	-	-	1
Ill.	16	-	689	-	4	299	70	34	2,237	-	38	69	-	34	19
Mich.	18	-	59	-	-	60	61	21	308	-	35	46	-	8	16
Wis.	4	-	278	-	3	59	9	3	232	-	97	315	-	2	1
W.N. CENTRAL	29	-	322	-	17	12	101	2	115	229	1,370	213	-	13	19
Minn.	8	-	45	-	4	6	21	-	1	-	51	107	-	1	2
Iowa	1	-	133	-	1	-	11	2	36	-	19	28	-	1	1
Mo.	11	-	25	-	6	3	35	-	21	1	20	29	-	1	7
N. Dak.	-	-	25	-	1	2	1	-	3	-	5	9	-	1	2
S. Dak.	2	-	-	-	-	-	5	-	1	-	14	3	-	-	-
Nebr.	4	-	-	-	-	-	11	-	-	-	7	9	-	-	-
Kans.	3	-	94	-	5	1	17	-	53	228	1,254	28	-	9	7
S. ATLANTIC	114	22	685	-	55	329	378	7	213	12	719	485	-	14	52
Del.	1	-	1	-	-	-	4	-	-	-	227	2	-	-	2
Md.	14	-	26	-	9	113	45	1	20	-	163	276	-	-	6
D.C.	3	-	-	-	1	31	5	-	-	-	-	-	-	-	-
Va.	30	-	36	-	24	28	66	3	41	3	39	17	-	-	2
W. Va.	4	-	2	-	-	33	3	-	48	-	23	4	-	-	9
N.C.	6	-	3	-	1	9	61	1	22	5	73	30	-	-	1
S.C.	6	-	274	-	-	3	41	1	13	-	18	2	-	-	3
Ga.	12	-	79	-	14	8	54	-	28	-	129	92	-	-	-
Fla.	39	22	264	-	6	104	99	1	41	4	47	62	-	14	29
E.S. CENTRAL	19	-	58	3	12	7	109	3	46	-	47	55	-	4	3
Ky.	5	-	-	-	6	5	24	-	6	-	5	8	-	4	3
Tenn.	1	-	55	-	1	1	37	3	35	-	16	24	-	-	-
Ala.	9	-	1	-	1	-	35	-	4	-	25	19	-	-	-
Miss.	4	-	2	3§	4	1	13	-	1	-	1	4	-	-	-
W.S. CENTRAL	95	38	680	-	38	436	189	3	219	-	231	488	1	64	37
Ark.	1	-	278	-	2	-	27	-	33	-	18	14	-	-	1
La.	17	-	4	-	-	42	25	-	3	-	13	15	-	-	-
Okla.	10	-	37	-	2	1	28	N	N	-	117	163	-	-	1
Tex.	67	38	363	-	34	393	109	3	183	-	83	296	1	64	35
MOUNTAIN	31	-	302	-	29	539	100	2	237	13	255	206	-	23	6
Mont.	-	-	-	-	8	137	10	-	5	1	15	9	-	2	-
Idaho	1	-	1	-	-	137	4	-	8	1	42	15	-	-	2
Wyo.	-	-	-	-	-	5	2	-	-	-	4	-	-	1	-
Colo.	8	-	2	-	8	13	17	-	14	1	66	81	-	1	-
N. Mex.	5	-	33	-	7	6	9	N	N	-	20	11	-	-	2
Ariz.	11	-	252	-	6	241	22	1	187	9	65	38	-	2	1
Utah	3	-	12	-	-	-	10	1	15	1	39	52	-	14	-
Nev.	3	-	2	-	-	-	26	-	8	-	4	-	-	3	1
PACIFIC	418	3	587	1	63	398	432	9	316	11	449	424	4	242	196
Wash.	28	-	139	-	28	122	58	1	15	2	141	75	-	17	14
Oreg.	15	-	7	-	4	5	32	N	N	-	12	44	-	4	1
Calif.	374	2	413	1†	30	247	319	8	275	9	280	258	3	215	132
Alaska	-	-	-	-	-	-	13	-	6	-	2	30	-	-	1
Hawaii	1	1	28	-	1	24	10	-	20	-	14	17	1	6	48
Guam	1	U	4	U	1	11	-	U	4	U	-	-	U	4	2
P.R.	4	-	36	-	-	83	3	1	33	-	19	11	-	62	27
V.I.	-	-	-	-	-	10	-	-	16	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	-	11	-	-	-	-	2	-
Amer. Samoa	-	-	2	-	-	-	-	-	5	-	-	-	-	1	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending November 1, 1986, and November 2, 1985 (44th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	22,728	22,791	9	18,442	18,024	131	264	722	4,652
NEW ENGLAND	411	498	-	605	620	1	16	13	8
Maine	19	13	-	34	40	-	-	-	-
N H	10	36	-	23	20	-	-	2	1
Vt	9	6	-	16	7	-	-	-	2
Mass	215	248	-	335	370	1	13	4	-
R I	19	14	-	42	47	-	-	3	3
Conn	139	181	-	155	136	-	3	4	2
MID ATLANTIC	3,167	3,090	-	3,622	3,254	1	22	34	593
Upstate N Y	159	234	-	515	569	-	4	19	76
N Y City	1,755	1,871	U	1,884	1,569	-	9	5	-
N J	567	598	-	621	456	1	8	2	17
Pa	686	387	-	602	660	-	1	8	500
E N CENTRAL	812	870	-	2,214	2,187	-	22	54	129
Ohio	110	128	-	387	374	-	8	48	14
Ind	98	74	-	238	271	-	2	-	17
Ill	363	400	-	944	960	-	3	2	38
Mich	144	210	-	545	459	-	6	4	24
Wis	97	58	-	100	123	-	3	-	36
W N CENTRAL	180	195	-	548	499	38	9	49	709
Minn	29	39	-	130	107	-	2	1	112
Iowa	7	18	-	46	51	1	-	1	163
Mo	94	104	-	265	239	29	6	25	67
N Dak	5	2	-	9	10	-	-	1	144
S Dak	9	6	-	25	27	3	-	6	141
Nebr	11	7	-	12	15	1	-	6	29
Kans	25	19	-	61	50	4	1	9	53
S ATLANTIC	6,852	6,576	-	3,675	3,671	9	44	327	1,169
Del	52	34	-	39	39	-	1	1	1
Md	381	413	-	275	330	2	15	29	528
D C	255	286	-	136	133	1	4	-	31
Va	302	256	-	303	357	2	10	52	171
W Va	19	22	-	108	93	-	3	10	46
N C	439	591	-	503	470	1	4	124	9
S C	596	691	-	470	451	-	-	70	60
Ga	1,275	1,175	-	613	612	3	-	39	176
Fla	3,533	3,108	-	1,228	1,186	-	7	2	147
E S CENTRAL	1,579	1,760	-	1,648	1,579	12	3	107	313
Ky	61	59	-	369	383	4	-	22	91
Tenn	528	528	-	487	470	6	1	43	109
Ala	449	571	-	516	464	1	1	24	111
Miss	541	602	-	276	262	1	1	18	2
W S CENTRAL	4,508	5,273	1	2,303	2,326	57	23	127	641
Ark	214	284	-	315	274	40	-	10	147
La	785	939	-	378	335	1	1	-	19
Okla	120	168	-	215	220	11	2	100	57
Tex	3,389	3,882	1	1,395	1,497	5	20	17	418
MOUNTAIN	519	621	1	441	471	10	15	10	603
Mont	6	6	-	24	46	1	1	4	194
Idaho	13	5	-	20	22	-	-	2	9
Wyo	2	7	-	-	5	-	-	1	252
Colo	118	156	-	40	68	3	1	3	29
N Mex	62	112	-	86	76	1	1	-	6
Ariz	219	273	1	208	214	-	8	-	95
Utah	18	8	-	30	12	4	3	-	7
Nev	81	54	-	33	28	1	1	-	11
PACIFIC	4,700	3,908	7	3,386	3,417	3	110	1	487
Wash	120	97	1	176	198	1	3	-	5
Oreg	100	88	-	110	115	-	-	-	1
Calif	4,448	3,663	6	2,902	2,854	1	102	1	473
Alaska	1	4	-	46	89	1	1	-	8
Hawaii	31	56	-	152	161	-	4	-	-
Guam	1	2	U	34	36	-	1	-	-
P R	758	723	-	288	295	-	5	-	41
V I	1	3	-	1	1	-	-	-	-
Pac. Trust Terr	215	128	-	62	75	-	46	-	-
Amer Samoa	-	-	-	5	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending November 1, 1986 (44th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	628	455	106	35	12	18	46
Boston, Mass.	176	112	39	11	3	11	17
Bridgeport, Conn.	42	31	9	1	-	1	4
Cambridge, Mass.	20	17	2	-	1	-	1
Fall River, Mass.	26	21	3	2	-	-	-
Hartford, Conn.	69	52	8	6	2	1	3
Lowell, Mass.	25	19	2	1	2	1	-
Lynn, Mass.	15	9	5	1	-	-	-
New Bedford, Mass.	27	22	3	2	-	-	1
New Haven, Conn.	49	27	13	5	1	3	5
Providence, R.I.	41	31	7	1	1	1	5
Somerville, Mass.	2	1	1	-	-	-	-
Springfield, Mass.	51	43	4	3	1	-	4
Waterbury, Conn.	28	24	3	1	-	-	2
Worcester, Mass.	57	46	9	1	1	-	3
MID ATLANTIC	2,772	1,817	562	269	63	61	127
Albany, N.Y.	65	47	13	3	2	-	1
Allentown, Pa.	16	14	2	-	-	-	1
Buffalo, N.Y.	110	77	22	3	4	4	8
Camden, N.J.	39	22	14	2	-	1	-
Elizabeth, N.J.	32	25	5	1	1	-	3
Erie, Pa.†	36	25	9	1	1	-	1
Jersey City, N.J.§	50	31	11	5	1	2	2
N.Y. City, N.Y.	1,533	980	296	187	36	34	62
Newark, N.J.	53	16	14	18	2	3	3
Paterson, N.J.	26	15	5	4	-	2	2
Philadelphia, Pa.§	347	230	76	24	7	10	20
Pittsburgh, Pa.†	57	39	13	2	3	-	3
Reading, Pa.	43	28	10	3	2	-	1
Rochester, N.Y.	122	92	21	6	1	2	12
Schenectady, N.Y.	32	25	5	1	1	-	1
Scranton, Pa.†	31	26	5	-	-	-	2
Syracuse, N.Y.	81	54	21	3	1	2	1
Trenton, N.J.	33	22	8	2	-	1	-
Utica, N.Y.	36	25	9	2	-	-	2
Yonkers, N.Y.	30	24	3	2	1	-	2
E.N. CENTRAL	2,414	1,592	508	168	59	87	106
Akron, Ohio	65	46	13	2	1	3	-
Canton, Ohio	33	28	3	2	-	-	1
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	164	111	33	8	4	8	12
Cleveland, Ohio	176	110	39	14	7	6	3
Columbus, Ohio	122	77	28	9	3	5	9
Dayton, Ohio	129	82	33	12	-	2	3
Detroit, Mich.	237	144	51	22	10	10	10
Evansville, Ind.	40	31	6	1	1	1	1
Fort Wayne, Ind.	81	52	21	2	2	4	3
Gary, Ind.	21	6	8	4	1	2	1
Grand Rapids, Mich.	82	64	11	3	2	2	6
Indianapolis, Ind.	216	134	49	19	6	8	6
Madison, Wis.	44	26	11	3	-	4	4
Milwaukee, Wis.	140	117	16	4	1	2	5
Peoria, Ill.	53	35	11	3	2	2	7
Rockford, Ill.	41	26	11	-	2	2	7
South Bend, Ind.	42	27	9	5	1	-	4
Toledo, Ohio	110	75	19	7	6	3	7
Youngstown, Ohio	54	39	11	3	-	1	1
W.N. CENTRAL	869	609	154	54	27	24	49
Des Moines, Iowa	54	41	7	4	1	1	4
Duluth, Minn.	23	18	3	1	1	-	-
Kansas City, Kans.	34	26	3	3	-	2	1
Kansas City, Mo.	126	83	17	11	7	8	11
Lincoln, Nebr.	30	24	4	-	2	-	2
Minneapolis, Minn.	209	143	47	10	4	4	7
Omaha, Nebr.	81	55	17	5	2	2	6
St. Louis, Mo.	171	125	28	11	6	1	11
St. Paul, Minn.	69	43	15	5	2	4	3
Wichita, Kans.	72	51	13	4	2	2	6
S. ATLANTIC	1,425	865	307	143	58	50	44
Atlanta, Ga.	187	118	27	24	9	9	1
Baltimore, Md.	365	202	91	43	19	10	15
Charlotte, N.C.	72	44	18	5	3	2	4
Jacksonville, Fla.	114	78	22	10	3	1	3
Miami, Fla.	144	81	31	19	8	5	3
Norfolk, Va.	61	34	20	4	1	2	-
Richmond, Va.	79	49	18	7	3	2	6
Savannah, Ga.	48	32	13	1	1	1	4
St. Petersburg, Fla.	103	84	9	4	3	3	2
Tampa, Fla.	67	36	14	8	3	4	3
Washington, D.C.	165	88	44	17	5	11	3
Wilmington, Del.	20	19	-	1	-	-	-
E.S. CENTRAL	726	437	171	83	22	32	29
Birmingham, Ala.	125	83	22	9	5	6	2
Chattanooga, Tenn.	67	40	14	8	2	3	6
Knoxville, Tenn.	66	48	14	1	3	-	3
Louisville, Ky.	99	58	30	7	2	2	4
Memphis, Tenn.	118	68	29	14	4	2	4
Mobile, Ala.	89	45	21	12	2	9	4
Montgomery, Ala.	41	26	11	1	-	3	1
Nashville, Tenn.	121	69	30	11	4	7	5
W.S. CENTRAL	1,287	794	290	108	39	56	68
Austin, Tex.	59	38	13	3	3	2	8
Baton Rouge, La.	32	22	5	3	1	1	1
Corpus Christi, Tex.	38	24	8	1	2	3	2
Dallas, Tex.	176	104	36	21	9	6	9
El Paso, Tex.	43	26	13	1	1	2	8
Fort Worth, Tex.	96	56	23	8	2	7	3
Houston, Tex.	289	150	74	41	12	12	5
Little Rock, Ark.	114	75	25	6	3	5	9
New Orleans, La.	96	54	23	11	2	6	-
San Antonio, Tex.	177	121	40	5	2	9	17
Shreveport, La.§	61	42	13	4	1	1	2
Tulsa, Okla.	106	82	17	4	1	2	4
MOUNTAIN	655	436	129	49	22	18	25
Albuquerque, N.Mex.	72	49	12	4	5	1	3
Colo. Springs, Colo.	43	30	8	1	2	2	3
Denver, Colo.	122	71	25	15	6	5	5
Las Vegas, Nev.	78	50	20	5	2	1	-
Ogden, Utah	32	22	7	2	1	-	3
Phoenix, Ariz.	132	84	29	9	3	7	4
Pueblo, Colo.	21	19	1	1	-	-	2
Salt Lake City, Utah	45	29	10	4	1	1	1
Tucson, Ariz.	110	82	17	8	2	1	4
PACIFIC	1,933	1,291	383	169	37	48	106
Berkeley, Calif.	17	9	3	3	1	1	3
Fresno, Calif.	87	56	14	7	4	5	15
Glendale, Calif.	28	22	4	2	-	-	1
Honolulu, Hawaii	75	55	9	6	-	5	10
Long Beach, Calif.§	94	63	18	6	2	5	9
Los Angeles, Calif.	578	380	116	64	10	5	16
Oakland, Calif.§	78	51	14	6	5	2	3
Pasadena, Calif.	30	22	2	3	1	2	1
Portland, Oreg.	136	98	29	3	2	4	11
Sacramento, Calif.	135	89	24	15	2	5	7
San Diego, Calif.	125	77	29	16	1	1	4
San Francisco, Calif.	164	107	36	17	2	2	3
San Jose, Calif.	153	107	33	7	2	4	12
Seattle, Wash.	135	86	30	11	4	4	2
Spokane, Wash.	51	37	11	1	1	1	7
Tacoma, Wash.	47	32	11	2	-	2	2
TOTAL	12,709	†† 8,296	2,812	1,068	339	394	599

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

St. Louis Encephalitis — Baytown and Houston, Texas

In the summer of 1986, Harris County (Baytown and Houston), Texas, experienced its largest outbreak of St. Louis encephalitis (SLE) since 1980. As of October 7, 25 confirmed cases and one presumptive case had been reported; four patients died. The focus of virus activity was Baytown, a town of 56,910 located 30 miles east of Houston. Twenty-one cases occurred in the Baytown area; 19 of the patients resided within the city limits. Four of the patients with confirmed disease resided in Houston, and the patient with the presumptive case was a Pasadena, Texas, resident who had been exposed to infection in Houston.

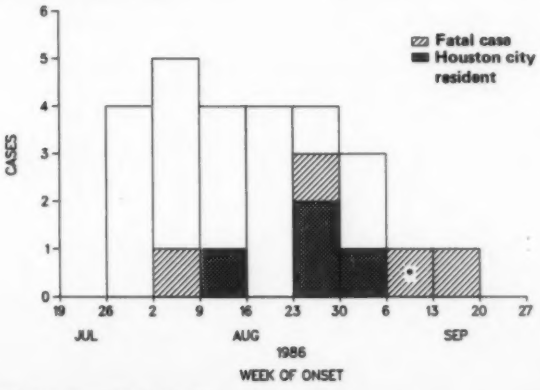
Before any cases were recognized, routine mosquito surveillance had led the Harris County Mosquito Control District to anticipate the outbreak. Vector mosquitoes collected in Baytown on July 15 and in the weeks that followed had had unusually high SLE virus infection rates (minimum infection rate >20 infected mosquitoes/1,000 tested), suggesting the likelihood of subsequent human disease. By August, the medical community in Harris County had been alerted to the possibility of a large SLE outbreak, and concentrated efforts to destroy adult mosquitoes had begun. Mosquito surveillance was intensified in Houston, but substantial numbers of infected mosquitoes were not detected there until August and September.

A countywide epidemic of enteroviral meningitis that began in March and continued through July made initial detection of the outbreak difficult. However, in September, a search of all Baytown hospital records disclosed only one case of SLE that had not already been recognized by physicians or infection-control nurses.

The 26 patients became ill in the period July 28-September 16 (Figure 1). Patients who lived in or were exposed to infection in Houston became ill notably later than those in Baytown. Although patients ranged from 10 to 84 years of age, 11 of them—including all four who died—were ≥55 years of age. The age- and sex-specific attack rates for Baytown (Table 1) showed a sharp increase in risk with advancing age. The attack rate for Baytown was 33.4/100,000 population, but cases were clustered principally in old, impoverished neighborhoods in the center of town. Ten of the 19 Baytown patients lived in the city's three poorest census tracts (attack rate, 85.2/100,000).

A case-control study of risk factors for infection was conducted. Controls were patients who were initially believed to have SLE but whose serologic test results did not indicate SLE

FIGURE 1. St. Louis encephalitis cases by week of onset, residence and outcome — Baytown and Houston, Texas, 1986



*Harris County resident exposed in Houston.

St. Louis Encephalitis — Continued

infection. Preliminary results indicated that the risk of acquiring SLE was associated with a) inadequate screening on dwellings (odds ratio [OR]=6.0), b) lack of air-conditioning (OR ≥10.0), and c) sitting outside the residence (OR=5.6). A trend toward risk was associated with window air-conditioning as opposed to central air-conditioning and with smoking cigarettes (p=0.07, Fisher's exact test). Patients and controls did not spend a significantly different number of hours outdoors or in such activities as gardening, walking outdoors, or watching television indoors.

Reported by MA Canfield, MS, VL Flannery, MS, T Hyslop, MD, MPH, CY Svrcek, MSN, Harris County Health Dept, DA Sprenger, PhD, RE Bartnett, Harris County Mosquito Control District, HW Brister, CA Riser, MD, Baytown Health Dept, CR Craig, Gulf Coast Hospital, BM Conrad, San Jacinto Methodist Hospital, ME Lewis, Humana Hospital, Baytown, KH Sullivan, PhD, GR Reeve, PhD, LM Little, PhD, J Haughton, MD, MPH, City of Houston Dept of Health and Human Svcs, CM Reed, MPH, CE Alexander, MD, MPH, State Epidemiologist, Bureau of Epidemiology, Texas Dept of Health; Div of Vector-Borne Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Harris County has been the focus of numerous SLE epidemics. In 1964, an outbreak centered in Houston involved over 1,000 cases (*1,2*). Since that time, there have been frequent outbreaks of SLE in Houston and other areas of Harris County, but the cluster of cases this summer was the first reported for Baytown.

The epidemiologic characteristics of this outbreak followed a typical pattern. Attack rates rose with advancing age, and the risks for illness and mortality were highest for the elderly (*1,3,4*). The attack rate in Baytown—33.4/100,000 population—was typical for urban-centered SLE epidemics (*3,4*) and similar to the incidence in the 1964 Houston epidemic (19.5/100,000) (*1*). The highest attack rates in Baytown were associated with old, impoverished neighborhoods in the center of the city. This pattern was also similar to that for the 1964 Houston outbreak, i.e., the epicenter of epidemic activity was downtown Houston, and risk declined in direct proportion to distance from the center of the city (*1*).

The association between risk and dwellings poorly sealed against mosquitoes as well as the absence of an association between risk and the number of hours spent outdoors suggests that exposure may have occurred indoors or in a peridomestic setting outside. The present case-control study confirms an earlier report from serologic surveys that risk of infection is associated with inadequate screening or the absence of air-conditioning (*5*). The reasons underlying the association between cigarette smoking and risk of acquiring SLE are unknown. Entomologic descriptions of the peridomestic habits of the epidemic vector, *Culex quinquefasciatus*, have led to its common name, "southern house mosquito" (*6*). The case-control study provides epidemiologic evidence that epidemic SLE virus infection may be transmitted indoors.

When outbreaks of SLE occur, the usual public health advisory to seek protection indoors assumes that houses are adequately sealed against mosquitoes. An advisory to repair window screens—and help for persons who need assistance in doing so—may be a more ef-

TABLE 1. Age- and sex-specific attack rates for St. Louis encephalitis — Baytown, Texas, 1986

Age (years)	Male		Female		Total	
	Number	Rate*	Number	Rate*	Number	Rate*
≤24	1	(7.6)	2	(15.6)	3	(11.5)
25-54	4	(36.1)	3	(28.5)	7	(32.4)
≥55	5	(124.7)	4	(76.1)	9	(107.9)
Total	**10**	**(35.3)**	**9**	**(31.5)**	**19**	**(33.4)**

*Cases/100,000 population, based on 1980 census data.

St. Louis Encephalitis – Continued

fective preventive measure in impoverished neighborhoods where the risk of SLE infection appears highest.

The 1986 outbreak of SLE in Baytown and Houston provides a clear example of the value of mosquito surveillance in anticipating and limiting human infection. Results of mosquito surveillance corresponded temporally and geographically to the occurrence of human cases. Cases and virus isolates from mosquitoes in Houston were reported relatively late in comparison with the reporting of cases and virus activity in Baytown. Mosquito surveillance also accurately indicated that a large outbreak would occur in Baytown but not elsewhere in the county. Present methods of detecting viruses in mosquitoes through cell culture or mouse innoculation require 1 to 2 weeks. An antigen detection immunoassay that identifies SLE virus antigen in 1 day is being evaluated in several mosquito control districts and should improve the timeliness of surveillance.

Although the outbreak in Baytown was the largest cluster of SLE cases this year, sporadic SLE virus activity was widespread in the United States. The Baytown outbreak was part of more diffuse activity on the Gulf Coast. To the south, a case was reported from Matagorda County, Texas. To the east, four cases were reported in Port Arthur, Texas, and one case each was reported in Lake Charles and in Baton Rouge, Louisiana. In the Upper Midwest, cases were reported in Fargo, North Dakota, and Scotts Bluff, Nebraska. (The Scotts Bluff patient was visiting the area.) In July, two cases were reported from Los Angeles, California.

Major urban-centered SLE outbreaks have recurred in a 10-year cycle. The last nationwide epidemic of SLE occurred in 1976, when more than 2,000 cases were reported (*3*). Small premonitory outbreaks often have foreshadowed larger epidemics the following year (*3*). The 1986 SLE virus activity indicates both the possibility of more widespread transmission next year and the need for careful surveillance.

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Erratum: Vol. 35, No. 42

p. 655 In Table 1, Hispanic AIDS cases included 254 cases in adults (age ≥15 years) and 11 cases in children (age <15 years) that were citizens of Puerto Rico. In calculating the cumulative incidences, however, the denominator included only the U.S. population. If the Puerto Rican population is included in the denominator, the cumulative incidence for adults is 291.9/1,000,000 population, and for children, 13.7/1,000,000 population. Alternatively, if the Puerto Rican cases are excluded from the numerator, the cumulative incidence for adults is 330.6/1,000,000 population, and for children, 14.3/1,000,000 population.

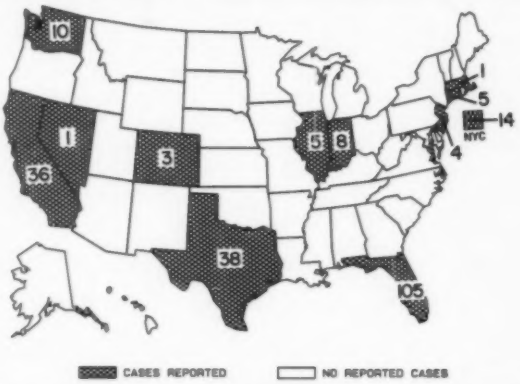
In Tables 2 and 3, the U.S. population provided for reference does not include the Puerto Rican population. The AIDS cases in these tables include cases from Puerto Rico. For reference, the total U.S. population including Puerto Rico is 177,442,206 adults (80.4% white, 10.5% black, 6.8% Hispanic, and 2.3% other races) and 52,299,613 children (71.8% white, 14.3% black, 10.9% Hispanic, and 3.0% other races).

Notice to Readers

Delay in Publication of Tables I-IV

Because Veterans' Day (a Federal holiday) falls on Tuesday, November 11, this year, Tables I-IV—specified notifiable diseases and deaths in 121 U.S. cities—for the week ending November 8 cannot be prepared in time for the November 14 issue of the *MMWR*. Therefore, Volume 35, Number 45, dated November 14, 1986, will contain text only and Volume 35, Number 46, dated November 21, 1986, will contain a double set of Tables I-IV for the weeks ending November 8 and November 15. The data from Tables I-IV will be available upon request after 1:00 p.m. on Thursday, November 13. Call (404) 329-3761.

FIGURE I. Reported measles cases — United States, weeks 40-43, 1986



*U.S. Government Printing Office: 1987-730-145/40032 Region IV

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